

Translation

PATENT COOPERATION TREATY

PCT/RU2003/000586



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2420-300421	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/RU2003/000586	International filing date (day/month/year) 25 December 2003 (25.12.2003)	Priority date (day/month/year) 26 December 2002 (26.12.2002)
International Patent Classification (IPC) or national classification and IPC G01P 3/36, 13/00, A63B 71/06		
Applicant	VOROZHTSOV, Georgy Nikolaevich	

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand

23 July 2004 (23.07.2004)

Date of completion of this report

23 March 2005 (23.03.2005)

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/RU2003/000586

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

the international application as originally filed  
 the description:

pages \_\_\_\_\_ 1-11 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

the claims:

pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ 1-11 \_\_\_\_\_, filed with the letter of 09 February 2005 (09.02.2005)

the drawings:

pages \_\_\_\_\_ 1/8-8/8 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
 the language of publication of the international application (under Rule 48.3(b)).  
 the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority in written form.  
 furnished subsequently to this Authority in computer readable form.  
 The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
 The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/fig. \_\_\_\_\_

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV

Unity of invention exists only when there is a technical relationship among the claimed inventions, defined by one or more of the same or corresponding "special technical features". The expression "special technical features" is defined in PCT Rule 13.2 as meaning such technical features which determine the contribution which each of the claimed inventions, considered as a whole, makes over the prior art. In the set of claims presented by the applicant there is no unity of invention between the "device" subject matter (claim 5) and the "method" subject matter (claim 1), as the invention according to claim 5 does not have a "special technical feature" that is the same as or corresponds to the "special technical feature" of the invention according to claim 1. The special technical feature of claim 1 is the recording and analysis of change dynamics in the intensity of infrared radiation on different sections of the trajectory of an object, and calculation according thereto of the parameters of movement of the object. The special technical feature of claim 5 is a receiver of mechanical vibrations connected to an infrared chamber.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims	1-11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

## 2. Citations and explanations

D1: WO 1996/025986 A1

D2: US 5160839 A

D3: US 6367332 B1

D4: RU 2140720 C1

The method presented in D1 and D2 is the closest to the variants of the method for determining the dynamic characteristics of the movement of a material object in sports competitions or during training (claim 1). The method known from D1 includes recording the trajectory of infrared traces formed in the infrared spectrum range as a result of the interaction of an object with surrounding objects. The method known from D2 includes recording the trajectory of infrared traces formed in the infrared spectrum range as a result of the interaction of an object with the environment.

The claimed variants differ from the known method in that the dynamic characteristics of a moving object are determined more accurately by recording the dynamic changes in the intensity of infrared radiation on different sections of an object's trajectory, and calculating the parameters of the object's movement based thereon. These distinctive features are not known and not obvious from the prior art to a person skilled in the art.

Therefore claims 1-4 meet the requirement of inventive step.

A device is known from D1 which includes at least one infrared chamber and a computer.

The claimed device (claim 6) differs from the known device in that it has a receiver of mechanical vibrations.

The use is known from D3 of a receiver of mechanical vibrations for recording the movement of an object during sports competition, but the claimed receiver of mechanical vibrations differs from D3 in that it is connected to an infrared chamber and used for determining the most critical moments in time for switching the infrared chamber on and off, which determines more accurately the parameters of movement of the material object. Therefore the device according to claims 6-10 meets the requirement of inventive step.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 11 is drafted incorrectly and therefore the scope of the claims defined is unclear. It would be appropriate to draft it, for example, in the following form: A method for assessing the technical and creative potential of sportsmen, consisting in that the dynamic characteristics of the movement of a material object in sports competitions or during training are determined using the method according to claims 1-4 and the device according to claims 5-10.